

# Basic algebra

## Topic Test

## PART A

### Instructions

This part consists of 12 multiple-choice questions

Each question is worth 1 mark

Fill in only ONE CIRCLE for each question

Calculators are NOT allowed

Time allowed: 15 minutes

Total marks = 12

						Marks
1	$8x - 3x - x$ equals	(A) $4x$	(B) $6x$	(C) $8x - 3$	(D) $5$	1
2	$a^3 + a^3$ equals	(A) $a^6$	(B) $a^9$	(C) $2a^3$	(D) $2a^6$	1
3	$3ab^2$ equals	(A) $3 \times a \times b \times 2$	(B) $3 \times ab \times ab$	(C) $3ab \times 3ab$	(D) $3 \times a \times b \times b$	1
4	$12m^6 \div 4m^3$ equals	(A) $3m^3$	(B) $3m^2$	(C) $8m^3$	(D) $8m^2$	1
5	$2(x - 7) + x$ equals	(A) $3x - 7$	(B) $3x - 14$	(C) $x - 7$	(D) $x - 14$	1
6	The simplest fraction for $\frac{x}{2} + \frac{x}{3}$ is	(A) $\frac{x}{5}$	(B) $\frac{2x}{5}$	(C) $\frac{2x}{6}$	(D) $\frac{5x}{6}$	1
7	$4a^2 \times 5a^4$ equals	(A) $9a^6$	(B) $9a^8$	(C) $20a^6$	(D) $20a^8$	1
8	$b$ is a factor of $ab + bc$ . What is the other factor?	(A) $a$	(B) $a + bc$	(C) $ac$	(D) $a + c$	1
9	Simplify $\frac{a^6b}{a^2b^2}$	(A) $\frac{a^3}{b}$	(B) $\frac{a^4}{b}$	(C) $a^3b$	(D) $a^4b$	1
10	$x(x - 5)$ equals	(A) $x^2 - 5$	(B) $x^2 - 5x$	(C) $-4x$	(D) $-5x^2$	1
11	$k^4 \times (k^8 \div k^2)$ equals	(A) $k^{16}$	(B) $k^{10}$	(C) $k^8$	(D) $k^6$	1
12	If $a = 4$ and $b = 5$ then $3ab^2$ equals	(A) $120$	(B) $300$	(C) $1200$	(D) $3600$	1

Total marks achieved for PART A

12

# Basic algebra

## Topic Test

## PART B

**Instructions** This part consists of 15 questions  
Each question is worth 1 mark  
Write answers in the answers-only column

**Time allowed: 20 minutes**

**Total marks = 15**

Questions	Answers only	Marks
Simplify the following.		
<b>1</b> $-5a + 6a + 3a$	<hr/>	<div>1</div>
<b>2</b> $(3ab)^2$	<hr/>	<div>1</div>
<b>3</b> $\frac{1}{2}ab \times 32b^2$	<hr/>	<div>1</div>
<b>4</b> $\frac{a^2}{b} \div \frac{1}{b}$	<hr/>	<div>1</div>
<b>5</b> Expand and simplify $5a + 3(2 - a)$ .	<hr/>	<div>1</div>
<b>6</b> Simplify $\frac{8}{a} - \frac{3}{a}$	<hr/>	<div>1</div>
<b>7</b> Expand and simplify $x(2x - 1) - 2(x^2 - x)$ .	<hr/>	<div>1</div>
<b>8</b> Factorise $2p^2q + 4pq^2$ .	<hr/>	<div>1</div>
<b>9</b> Expand and simplify $3(x + 5) + 4(x + 3) - 6(3x - 2)$ .	<hr/>	<div>1</div>
<b>10</b> Expand $(y - 2)(y + 4)$ .	<hr/>	<div>1</div>
<b>11</b> Simplify $\frac{6x + 9}{6}$ .	<hr/>	<div>1</div>
<b>12</b> Simplify $a^2b^3 \times 2(ab)^3 \div 8a^3b^4$ .	<hr/>	<div>1</div>
<b>13</b> Simplify $\frac{5x}{2y} \times \frac{8x}{25y}$ .	<hr/>	<div>1</div>
<b>14</b> Simplify $\frac{a^3b}{3} \div \frac{a}{6b}$ .	<hr/>	<div>1</div>
<b>15</b> Simplify $\frac{3x}{10} - \frac{x}{10} + \frac{7x}{10}$ .	<hr/>	<div>1</div>

**Total marks achieved for PART B**

**15**